MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Other names:
Recommended use: IVOMEC® EPRINEX® (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited immature *Ostertagia ostertagi),* lungworm, grubs, sucking and biting lice, chorioptic and sarcoptic mange mites, buffalo flies in beef and dairy cattle of all ages, including lactating dairy cattle and for the treatment and control of gastrointestinal roundworms and lungworm in deer.

Supplier name: Merial Australia Pty Ltd
Address: Level 6, 79 George Street
Parramatta NSW 2150
Telephone number (toll-free): 1800 808 691
All hours emergency phone number - Poisons Information Centre 131126, anywhere in Australia

SECTION 2 HAZARDS IDENTIFICATION

Not classified as hazardous according to criteria of NOHSC.
Not classified as Dangerous Goods according to the ADG Code.

Risk phrase(s) (Hazard): VERY TOXIC TO AQUATIC ORGANISMS (R50)
Safety phrase(s)):
(Precautionary statements) DO NOT EMPTY INTO DRAINS (S29)

APPROVED CRITERIA: NOHSC CLASSIFICATION: Not classified
SUSDP CLASSIFICATION : POISONS SCHEDULE: 5
ADG CODE CLASSIFICATION: Not Dangerous Goods UN No.: none

LOCAL EFFECT OF PRODUCT:
TARGET ORGANS: See note to physician below.
INHALATION: As the pour-on is a liquid, this is not a likely route of entry. Unlikely to be harmful at the low concentration of active ingredient in this product.
SKIN CONTACT: Not irritating
EYE CONTACT: Not irritating.
INGESTION: Overexposure to the active ingredient eprinomectin may cause dilated pupils, in-coordination, drowsiness, depressed motor activity, slowed breathing, dilation of the pupils, tremors, vomiting, anorexia, muscle tremors, headache and dizziness.

CHRONIC EFFECTS: Not sensitising. In animal studies, at doses toxic to the mother, **pure eprinomectin** is a reproductive toxin in mice and rats, however, in rabbits, eprinomectin is foetotoxic at doses not toxic to the mother. Rats exposed *in utero*, through lactation and for an additional 3 months, showed signs of intravascular haemolysis.
At doses above 288 mg/kg/day of the **solvent**, chronic studies in rabbits and dogs indicated testicular atrophy, also found in rats as well as foetoxicity and teratogenicity by oral, subcutaneous and intramuscular routes.

CARCINOGEN STATUS: Not classified by NOHSC, NTP or IARC

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Content %	Classification	Risk phrase
Eprinomectin	123997-26-2	0.5	T Toxic	R 20/21, 25, 50
Vehicle	confidential	>90	not classified	-

SECTION 4 FIRST AID MEASURES

ADVICE: For advice, contact a Poisons Information Centre (P.I.C.) (Phone 131 126 anywhere in Australia), or call a doctor at once.

INHALATION: If vapour or mist inhaled, remove from contaminated area. If adverse effects occur, contact P.I.C. or a doctor and show this MSDS.

SKIN CONTACT: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

EYE CONTACT: If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

INGESTION: If swallowed urgent hospital treatment is likely to be needed. Follow instruction of Poisons Information Centre. Medical observation for delayed symptoms needs to be carried out for up to 48 hours.
Medical conditions aggravated by exposure - none known.

Pharmacology: Eprinomectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells. This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA). The margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels, the macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS:	Combustible not flammable.
EXTINGUISHING MEDIA:	Water spray/fog, dry chemical or CO2.
FIRE FIGHTING:	Do not use water jet.
Special advice in case of fire:	Emergency workers should wear full protective equipment and supplied-air breathing apparatus. Toxic or irritant gases, vapours or particulates may be generated in a fire. Spray water on containers to cool them. Contain contaminated fire-fighting water.
Hazardous products of combustion:	Oxides of carbon and unidentified pyrogenic substances.

SECTION 6 ACCIDENTAL RELEASE MEASURES

IF SPILL OR LEAK IS OF SIGNIFICANT QUANTITY:
Move non-essential persons away. Put on the protective equipment recommended in Section 8. Seal leak if safe to do so and place leaking receptacles in an over-bin. Contain spill with absorbent material such as dry sand or kitty litter. Do not allow liquid to enter drains or sewer. Sweep up used absorbent and pack in properly labelled container for disposal. To cleanse the contaminated area, wet down contaminated area with a small amount of water, cover again with absorbent, sweep up used absorbent and place in labelled container. Consult waste authority regarding disposal.

OCCUPATIONAL RELEASE: As for accidental release. Wear impervious gloves and eye protection to deal with a large spill.

SECTION 7 HANDLING AND STORAGE

SAFETY DIRECTIONS: PRODUCT IS HARMFUL IF SWALLOWED. WILL IRRITATE THE EYES AND SKIN. AVOID CONTACT WITH THE EYES AND SKIN. REPEATED EXPOSURE MAY CAUSE ALLERGIC DISORDERS.
If clothing becomes contaminated with product, remove clothing and launder. If product is on skin, immediately wash area with soap and water. If product is in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing.

HANDLING AND STORAGE Store away from oxidising agents. Do not store with food. Store in original container to protect from light. Store below 30 deg.C.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

No ingredients that require workplace atmosphere monitoring have been identified by the manufacturer.
EXPOSURE LIMITS: NOHSC TWA = None assigned
NOHSC STEL= None assigned
No exposure limits have been established by NOHSC for ingredients such as the active ingredient.

Exposure Controls / Industrial hygiene:
VENTILATION: Good ventilation for normal use.
RESPIRATOR: Not required for normal use.
EYE PROTECTION: Not required for normal use.
SKIN PROTECTION: Not required for normal use.
Personal Protective Equipment for cleaning-up a significant spill:
EYE PROTECTION: Use eye protection complying with AS 1336 / 1337.
SKIN PROTECTION: Wear impervious gloves such as neoprene rubber or PVC-coated cotton gloves complying with AS/NZS 2161.2. Wear overalls and impervious footwear. Wear a respirator if a mist or aerosol is formed from large spills.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless to yellow liquid.
Odour.	Almost none
pH.	Not relevant
Boiling point/range.	Not determined
Freezing Point	Not determined
Vapour pressure:	Not determined
Solubility in water	Poorly miscible
Specific gravity or density.	0.91 – 0.92
Flash point	220 deg.C
Autoignition temperature	Not determined
Viscosity.	Not determined
Octanol/water partition coefficient.	log Po/w = Not determined
Reactivity	Not an oxidising agent.
Burning characteristics.	Combustible, not flammable
Incompatible materials.	Strong oxidizing agents or peroxide formers.

SECTION 10 STABILITY & REACTIVITY

Thermal decomposition:	Not expected at normal temperatures.
Hazardous decomposition products:	Products of photodegradation have not been identified.

Dangerous reactions:	None known.
REACTIVITY:	Stable but readily oxidised by oxidising agents such as pool and spa chlorine, permanganates, chlorates and may catch fire in contact with them..
CONDITIONS TO AVOID:	Contact with any oxidising agent, strong acids and strong alkali. Incompatible with oxidising agents.
HAZARDOUS DECOMPOSITION:	No significant decomposition expected at normal temperatures.
POLYMERISATION:	No hazardous polymerisation will occur.

SECTION 11 TOXICOLOGICAL INFORMATION

This product is a veterinary medicine and should be regarded as harmful if swallowed or absorbed.

Health effects from the likely routes of exposure:

	Product estimate	Eprinomectin active ingredient
LD50 acute oral rat:	> 5000 mg/kg	55 mg/kg
LD50 acute dermal rat:	> 5,000 mg/kg	>660 mg/kg
LD50 acute dermal rabbit:	>50,000 mg/kg	406 mg/kg
Inhalation 4 hr rat:	>1000 mg/L	5.11 mg/L
Skin irritation (rabbit):	Not a skin irritant	Not a skin irritant
Eye irritation (rabbit):	Eye irritant	Eye irritant
Sensitisation (guinea pig):	Not a sensitising agent	Not a sensitising agent
Genotoxicity	Not genotoxic	Not genotoxic

LOCAL EFFECTS OF PRODUCT:	None identified.
TARGET ORGANS:	Eyes
HAZARDOUS INGREDIENTS:	None
MUTAGENICITY DATA:	None available
Subacute to chronic toxicity:	None available.
Additional toxicological information:	
The following symptoms may occur:	Overexposure to the active ingredient eprinomectin may cause dilated pupils, in-coordination, drowsiness, depressed motor activity, slowed breathing, dilation of the pupils, tremors, vomiting, anorexia, muscle tremors, headache and dizziness.

SECTION 12 ECOLOGICAL INFORMATION

The following Information applies to the **eprinomectin** active ingredient, not the product:
Environmental fate: Epronomectin photodegrades rapidly in the environment and is metabolized in the soil. Water solubility is limited and it binds to soil very tightly. It does not bioconcentrate in fish and is not taken up from soil into plants. Bioaccumulation potential: Not expected to bioaccumulate.

Eprinomectin active ingredient continued

TOXICITY TO FISH:	LC50 = 1.2 ppb - Rainbow Trout - very toxic to fish.
TOXICITY TO DAPHNIA:	EC50 48 hr = 0.45 ppb (*magna)* - very toxic to Daphnia
TOXICITY TO ALGA:	Not available
TOXICITY TO BACTERIA:	Not available
READY BIODEGRADABILITY:	Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Special precautions: As the active ingredient is highly toxic to aquatic organisms, great care is needed to ensure that the product does not reach a drain or waterway.

METHOD OF DISPOSAL: Triple or (preferably) pressure rinse the empty container. Dispose of waste product/rinsate in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Return clean container for recycling where this is an option or for disposal at a landfill authorised to accept that waste. If neither of these options are available, bury the container below 500 mm in the disposal pit. Empty containers should not be burned. Contaminated water can be treated by activated carbon absorption.

For the disposal of the clean-up materials from a significant spill consult waste authority regarding disposal.

SECTION 14 TRANSPORT INFORMATION

Surface transport:

UN Number	None
UN Proper Shipping Name	None
Class and subsidiary risk	-
Packing Group	-
Special precautions for user	None
Hazchem Code	None
Labelling:	No DG Labelling required in Australia
Transport as :	No special requirements
Incompatible stowage:	Foodstuffs

SECTION 15 REGULATORY INFORMATION

This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA Approval Number 49105/)

SECTION 16 OTHER INFORMATION

Hazardous for water: Do not allow product to reach ground water, water course or sewage system. Poisonous to fish and plankton in water bodies.

ACRONYMS USED IN THIS MSDS

SUSDP	Standard for the Uniform scheduling of Drugs and Poisons
ADG Code	Australian Dangerous Goods (DG) Code
CAS No.	Chemical Abstracts number
UN No.	United Nations identifying number for DG
R-phrases	Risk phrases identifying main hazard of ingredient or product
S-phrases	Safety phrases identifying main safety measures to be used
NOHSC	National Occupational; Health and Safety Commission
NTP	National Toxicology Programme (USA)
IARC	International Agency for Research on Cancer

SUPPLIER STATEMENT: *The product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations.. The information in this MSDS is based on the level of knowledge at the time of preparation and relates to the product in the state in which it is supplied. The information describes the product from the safety point of view and is not intended to guarantee any particular properties and shall not establish a legally valid contractual relationship*